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Valkonen, Jarno; Loikkanen, Teemu

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WASTE CITIZENSHIP IN CIRCULAR ECONOMY: CASE STUDY OF WASTE GOVERNANCE IN FINNISH LAPLAND

Jarno Valkonen and Teemu Loikkanen

Introduction

"Why wouldn't I sort my waste? I am sorting pretty much everything else anyway. This is life as it is lived, every day. And it is not difficult at all. Recycling begins with sorting the waste. When I sort my waste, someone else may use it as a resource to produce something new. Used milk cartons are turned into new cardboard packaging and core paper, glass jars are born as glass jars again, or, perhaps, as glass bottles. Banana peels and coffee grounds bring nutrients back to the natural cycle and create renewable biogas as a source of energy. A newspaper does not live only twice, but it actually has even five, or six, lives. Glass and metal can be melted to form new objects practically endlessly." (HSY 2020).

This is how simple circular economy can be: If people sort their household waste appropriately and place the materials in the designated recycling containers for each material, the materials can be recycled and reused. Circular economy is thus "life as it is lived, every day". It is an issue that involves us all – and one that brings advantages to the economy as well as the environment.

The above description of the effortlessness of sorting waste is a typical example of the current trend of waste education by authorities and organizations targeted at people. Through communication about the ease and advantages of sorting and recycling waste, as well as the wider significance of circular economy to the environment, waste education aims to cultivate a sense of responsibility in people and to promote their willingness to act on waste issues for the sustainability of the environment.

Although waste education has long been part of institutional waste management (see Strasser 1999; O'Brien 1999; Hawkins 2006), its purpose and significance in the waste policy of circular economy is, however, different. Circular economy is a political program the objective of which is to achieve a profound change in the materials economy of today's society. The approach has developed in response to the diminishing of resources and the ever-increasing quantities of waste through attempts aimed at transforming the inevitable by-product of human existence into useful resources, with the ultimate objective of putting an end to waste production.

In circular economy, waste is no longer seen as non-reusable and as surplus to be disposed of, but above all, as a potential resource and a source of value. Waste has become raw material and the world is now looking towards it for a new economic driver capable of providing solutions to a complex set of problems ranging from unemployment to the depletion of virgin raw materials and the energy economy.

Circular economy is by no means reducible to mere waste management. Its objective is not only to create a new system of economic governance but, ultimately, to transform the very foundations of social life, leading to the formation of a novel kind of society in which materials circulate, production and consumption accommodate to the Earth's carrying capacity, and people are consuming services instead of products. Well-being is no longer created through abundance and ownership of material possessions, but through sharing and recycling (European Commission 2015).

Circular economy cannot be established without the consumer-citizen's everyday engagement and commitment, since the materials – which are waste when discarded – flow only if households, companies, and public bodies sort and recycle their waste. The waste management of circular economy thus frees waste from the traditional framework of landfill sites and combustion plants, and brings it back to people's everyday lives, thus directing citizens towards a new kind of hands-on living with waste. Thus, the success of circular economy is decisively dependent on whether or not consumer-citizens embrace the subject position of the waste citizen ascribed to them in circular-economic thinking.

In this article, we examine what kind of citizenship circular economy produces. Our starting point is the notion that, in order to function, circular economy requires from citizens a particular kind of stance and action regarding waste. The information steering by organizations and authorities is thus not only waste education, but a wider attempt to produce novel kind of agency with regard to waste – waste citizenship. Information, instructions

and advice regarding sorting and recycling waste produce a normative image of "the good waste citizen" as an individual positioned to act responsibly not only regarding waste, but also vis-á-vis the ecological environment on the planetary scale. We are interested in the strategies aimed at turning citizens into ethically minded waste citizens. We ask: How is the subject position of *the waste citizen* constructed and what are the strategies employed to encourage people to embrace this position?

We conceptualize waste citizenship by applying the theory of environmental citizenship. The concept of environmental citizenship emerged in scholarly discussion within Environmental Social Science in the 1990s (see Dean 2001; Dobson 2003; Barry 2006). In the theory of environmental citizenship, the scope of the concept of citizenship has been expanded from the relationship of an individual and the nation state to encompass the relationship between the individual and the global community. The formation of environmental citizenship is seen as requiring sensitization of the individual to environmental concern, active involvement in pursuing environmentally beneficial goals both through everyday consumption choices as well as through actions taken in the public sphere. Thus, both desire and ability of the individual to pursue environmentally beneficial goals are prerequisites for environmental citizenship. In our article, we adopt the view that the central perspectives on environmental citizenship offer tools for analysing the subject position of the waste citizen produced in and through circular economy.

Empirically, our article is based on a project entitled *Waste Society (Jätteen yhteiskunta*), which addresses the problematic of municipal waste policy and management in Finnish Lapland (https://wastesociety.com/). Our data consist of a total of twenty interviews with actors involved in waste management issues representing various perspectives: the municipalities, the state, the private sector, and non-governmental organizations. Informed by the theory of environmental citizenship, we examine the kinds of duties, responsibilities, rights, and justices the actors responsible for waste management in the context of circular economy ascribe to people as waste citizens.

In the next section, we will introduce our theoretical perspective on waste citizenship as well as our empirical data set and the analysis method employed in this study. After this, we will analyse the duties, responsibilities and rights ascribed to the waste citizen. We conclude by providing a synthesis of our findings and discuss the nature of citizenship circular economy presupposes.

Waste Society under Transformation

Social scientific waste studies have shown that the modern society has, in a sense, always been a waste society and the human living in it a waste citizen. Waste is inevitable. All human activities inexorably produce loss, wastage and surplus, and taking control over, managing, organizing and processing it is a significant prerequisite for the functioning of social life. Thus, there is no society without waste and waste management (Valkonen et al. 2019).

Waste is an inseparable part of everyday life. Waste is being generated, sorted, processed and consumed, and we co-exist with it in homes, yards, stores, offices, industries – anywhere where people live, spend time, work, move, or set foot. Waste is also part of the economy, politics, ideologies, infrastructures, power struggles and everyday practices. It is being produced, bought, sold, sorted, recycled, transported, taxed, distributed and processed further.

Examined from this perspective, society is a collectively organized way of dealing with our waste. It is exactly in this sense that all societies have always been waste societies. However, mere living with waste in itself does not set our way of life apart from that of the others. Societies differ with regard to the quantity and quality of waste they produce as well as with regard to the ways of dealing with that surplus.

Every period and way of life gives rise to its own characteristic waste flows. Ours produces particularly large quantities of waste. According to the 2018 report by the World Bank, by 2050, the world is expected to produce a total of 3.4 billion tons of waste annually, compared to around 2 billion tons in 2016, which means that global waste could increase by about 70% (see Kaza et al. 2018). The rich industrial countries generate approximately one third of the world's total waste, although their population accounts for only 16% of the world's population.

In addition to the enormous quantities of waste we generate, our waste society is characterized by diversity of waste. We leave behind every imaginable type of waste ranging from plastic to nuclear waste, we are wasting more food than ever, we are the ones who recycle glass, paper and cardboard and throw away smartphones and computers. Moreover, we generate waste across a range of scales: our waste can be anything from microplastic particles to electronic waste, industrial waste and abandoned vessels. Seemingly small amounts of waste, for example a plastic bottle or a plastic bag, generate large quantities of municipal waste because, taken together, indi-

viduals' acts produce massive aggregate-level effects (Pyyhtinen and Valkonen 2019).

Given the sheer quantity of waste as well as its immense impact on the world, the modern consumer society is a waste society of a particular kind. In addition, the role of the citizen vis-á-vis waste and waste management in consumer society has special characteristics. Our prevailing relationship with waste and the throw-away ethos characterizing our consumer society have long been based on the idea of exclusion, disposability, and denial of waste, as well as distance from it. Although today's consumption patterns, which are characterized by one-trip packaging and short product life cycles, generate immense quantities of material to throw away, with a well-functioning infrastructure in place, people have been able to avoid re-encountering the waste they themselves have produced, because, when recycled appropriately, the excess material quickly "vanishes" from households without a trace (Hawkins 2006; Valkonen et al. 2019).

However, waste is not invisible simply because it is effectively excluded from everyday life, but also because we are so used to the infrastructures, economies and behavioural norms defining and producing it that they conceal their own structuredness. What is essential is that their task is to render waste invisible – something that no longer disturbs us. The waste infrastructures processing our waste were built in such a way as to allow the majority of processing far away from households. As a consequence, we have very little grasp on the quantity of the waste we produce.

According to Gay Hawkins (2006), waste infrastructures have maintained the idea that surplus of consumption ceases to exist when removed from the system. This has played a decisive role in the formation of waste citizenship in the consumption-driven waste society. Because centralized waste infrastructures have taken care of the removal of surplus, the responsibility of the waste citizen has merely been to appropriately place the surplus into the designated containers. The citizen has, thus, had no particular responsibilities regarding waste itself beyond that point. Citizenship has been defined mainly through the citizen's relationship with the state, which has handled the waste, and its contractual relations with the citizens.

Accumulation and acceleration of problems caused by the ever-growing quantities of waste have fuelled efforts to find novel, more effective ways to manage the environmental impacts of existing waste as well as to minimize surplus. One proposed solution is circular economy, whereby production and consumption surplus – materials – are not disposed of, but recycled and reused to produce new products in a continual cycle. Circular economy has

determined the waste management of European societies since the early 2000s.

The European Union has been developing the basic principles of circular economy already in the 1990s, but the actual shift to circular economy took place in 2015 as the European Commission adopted its Circular Economy Action Plan aimed at promoting the EU's transition to a circular economy. The purpose of the action plan, which has been characterized as ambitious, is to generate "sustainable growth". Given the limited availability of many resources, the linear economic model of consumer society – which entails obtaining resources, making products, and disposing of them as waste – has become problematic. In the European Commission's action plan, the advantages of the environment and the economy go hand in hand. Resource use and generation of waste are reduced to a minimum. Materials are kept within the economy wherever possible and re-used in a continual cycle instead of generating waste (European Commission 2015).

From the perspective of citizenship, the transition to waste policy in accordance with the principles of circular economy is decisive. As described above, the waste management of circular economy keeps waste from becoming waste in the first place – that is, prevents it from being taken to landfill sites and combustion plants and, instead, brings it back to everyday life, thus guiding citizens towards living differently with waste. However, the objective is not only to encourage people to process their waste more carefully than before. It is also and especially a matter of making people more aware of the significance of waste as raw material to natural resource and consumer economy, and thus, to further increase their awareness of and accountability for the environmental impacts of waste and consumption. By redefining waste as raw material for new products, circular economy aims to position the consumer as a producer of raw materials for circular economy instead of a waste processor.

It is exactly in this sense that the role of the citizen in circular economy differs from that in the previous waste society. Today's waste citizen is expected to be committed to the idea of recycling and to live up to it in practice. Thus, the implementation of the concepts of circular economy in waste management presupposes that the citizens embrace the role ascribed to them as its subjects (e.g. Valkonen 2017, 40). Each and every one of us generates waste, and in accordance with the waste policy, is thus also responsible for waste management and, by extension, plays a role in the realisation of circular economy.

The Concept of Waste Citizenship

In his theory of environmental citizenship, Andrew Dobson (2003) defines environmental citizenship quite literally as citizenship of the environment. He thus extends the traditional concept of citizenship by including the environment in the citizen's sphere of responsibilities. Environmental citizenship is not only bound to the geographical area of the state but bears a relation to the ecological environment, which introduces new content – above all new rights and responsibilities – to the concept of citizenship.

In her article on climate citizenship, Mirja Vihersalo (2017) presents the view that the theory of environmental citizenship involves a rethinking of the relationships between individuals, governance, the environment, and the common good, and, more generally, what environmental citizenship entails or what its possibilities are. The idea behind rendering the sphere of activity global is to make those who are responsible for the decline of the environment accountable for their actions and to ensure equal opportunity for those who suffer from the decline the most. Similarly, environmental citizenship expands the concept of citizenship to cover the private sphere – the home. As many feminist scholars have long maintained, the decisions made in households have political and societal consequences. The concept of virtue is used to define a set of desirable characteristics of the environmental citizen, which, for Dobson (2003), are justice (which is linked with the shared responsibility referred to above), ethic of care, and a sense of caring and compassion about the environment and one's own activities within the ecological whole.

Different calculators – tools created for measuring an individual's carbon or ecological footprint are examples of ways in which the subject is expected to monitor their own actions. Such tools also allow comparing one's own performance as an environmental citizen with that of fellow citizens (Paterson and Stripple 2010).

In our view, circular economy expands the sphere of citizenship in a way comparable to that of the concept of environmental citizenship. The objective of circular economy is, first of all, to address people so as to evoke a sense of personal responsibility regarding waste. The waste citizenship of circular economy is similar to the traditional citizenship in that it is limited to the area of each country and operates in and through the country's contractual relations with its citizens. On the other hand, circular economy reshapes the citizen's relationship with waste, emphasizing the individual's personal responsibility for the materials tied to surplus of consumption and the retention of these materials in its cycle. This responsibility is greater

than citizenship of a state, since circular economy as a political program aims at restructuring the entire materials economy and, thus, building an economically and socially sustainable society. Thus, the waste citizen's responsibility entails both personal waste and the ecologically sustainable future of society.

Working on the concept of environmental citizenship, Vihersalo (2017) has proposed an analytical concept for the purpose of empirical analysis. She distinguishes four dimensions of the concept of environmental citizenship: duties, responsibilities, rights and virtues. In this article, we use the distinction presented by Vihersalo to examine what kinds of duties, responsibilities, virtues and rights are ascribed to the waste citizen of circular economy. The theory of environmental citizenship also entails examination of the political sphere, which refers to the citizen's obligations towards the community, i.e. whether the citizen's sphere of responsibility encompasses the immediate local environment and its inhabitants, the nation state, or the human kind encompassing the globe in its entirety (Dobson 2003). In this article, alongside previously mentioned dimensions, we analyse the political sphere determining the citizenship of circular economy. In our view, analysis of the political sphere is essential, since the global nature of the ecological footprint and environmental problems in general render waste citizenship as a quintessentially international subject position.

Our data consist of approximately twenty interviews with waste actors – waste management experts working in the private and public sector as well as one non-governmental organization operating mainly in Finnish Lapland. We analyse the interviews using theoretical content analysis, guided by questions emerging from the notion of environmental citizenship. Many of our interviewees talked a great deal about shaping waste policy and governance. Although this information is relevant and interesting, in this article we focus on the duties, responsibilities, virtues, rights and the political sphere ascribed to the implementer of the waste policy – the citizen. We ask what kinds of duties and responsibilities, rights and virtues belong to waste citizenship, and, what exactly is the citizen accountable for in this context and to whom or what are they accountable.

The Dimensions of Waste Citizenship

The Duties and Responsibilities of the Waste Citizen

Our interviews indicate that sorting waste is the citizen's responsibility. It is not only a matter of recycling one's personal waste appropriately, but the

citizen has the responsibility of being aware of the organization of waste management more generally: It is the citizen's responsibility to know what can and should be sorted and recycled in their place of residence. In addition, the citizens are expected to contribute to the overall tidiness of the recycling facilities.

> "[T]hat the consumers would understand their own role in the functionality of the network, and, well… keeping the recycling points tidy, that they would bear their responsibility for the collecting in the sense that, although the responsibility for emptying [the containers] and other stuff is ours, or the producer's. That the household would see that they, too, are responsible for using the eco point and so on… Well, there is no legal obligation to recycle, it is completely voluntary, but of course taking the recyclable types of waste to a collection point is one way of bearing responsibility, too, so it is not obligatory, but it is a way of bearing responsibility that you take the materials to recycling and don't put everything into mixed waste". (H10)

The interviews indicate that the citizen's responsibility for waste ends at the point of delivery of the sorted waste to the recycling facility. After this, the municipality assumes responsibility for the issue. In this sense, the recycling container functions as an interface of duties and responsibilities. Once the citizen has placed the appropriately sorted materials into the container, the legal obligations and responsibilities are transferred to the owner of the container (see Woolgar & Neyland 2013, 73–74).

The Waste Citizen's Virtues

In the theory of environmental citizenship, civic virtues refer to the qualities and characteristics of the citizen, or ones expected or desired of the citizen (Vihersalo 2017). The Lapland-based waste actors interviewed by us emphasize that the waste citizen should be an active consumer. For example, one interviewee working in a municipal waste management company emphasizes the significance of sustainable consumption choices:

> "If the consumers understood that it is worth purchasing the more sustainable [option], maybe the effects would begin to be felt. And one thing that I keep saying on advisory visits is that [do contact the producer] and give negative feedback on the packaging, because if you have a tiny toy in a box of this size, it makes no sense whatsoever that there are so many ma-

> terials, that there is cardboard, there is plastic, and that it would be possible to use smaller packaging, especially when we are dealing with a product that does not go bad, well…of course it is understandable that food products are packaged in a certain way, but as far as utility goods are concerned, we could do with much less packaging." (H5)

The interviewee quoted above points out that packaging materials such as cardboard and plastic could be reduced in all packaging except that of perishable food products, and that citizens should contact the producers and give feedback, urging them to reduce packaging materials. The interviewee, thus, calls for the active citizen who, in the role of a consumer, makes effort to influence the activities of companies to reduce the amount of packaging waste.

The above can be interpreted as being part of liberal citizenship conception, based on the assumption that in the capitalist system, the consumer-citizen is capable of influencing companies through his or her own actions. Packaging materials, thus, are not seen by the interviewee as a matter of state regulation, but citizens, through their own consumption choices, transform the consumer society towards greater sustainability.

Another central virtue that the Lapland-based waste actors ascribed to the waste citizen is the ideal of the aware citizen. The interviewees mentioned that people should be aware of the role of their own actions in waste generation.

> "Well, let's hope that an increasing number of people would realize that what you purchase has a great impact on what also exits from there." (H2)

According to the interviewee quoted above, everyone should pay attention to the fact that all things once purchased will be transformed into waste over time. Therefore, the citizen should – already prior to the purchase – think about the item to be purchased as the waste it will become in the future. In this way, responsibility for waste is associated with the citizen, and, by extension, more profound knowledge and awareness of the entire consumption chain as well as planning of consumption are required of citizens

Thirdly, the waste actors interviewed mention thrift as a virtue associated with the waste citizen. They emphasize that citizens should buy less products that generate unnecessary waste. In so doing, they can reduce the amount of waste and thus actively contribute towards a more sustainable society.

The Rights of the Waste Citizen

Our data include considerably fewer mentions of the rights of the waste citizen, which is rather surprising, given that rights are a central factor defining citizenship in liberal societies. Discussions of environmental citizenship have brought up the fact that citizenship is returning towards duties and responsibilities (see e.g. Dobson 2003, 40–44). This does not, however, mean that citizenship would cease to be defined through rights.

The waste actors interviewed by us talk about the rights of the waste citizen by defining them, in rather contradictory terms, as rights to responsibility. The interviewees mention, for example, that the citizens have the right to recycle and to take care of their personal waste. For example, according to one municipal waste management actor, it is important that recycling is possible for everyone. The interviewee points out that availability of recycling facilities is one manifestation of civil rights, comparable to the availability of health care services within reasonable reach. Recycling is thus equated with civil rights and it should be equally available to all, nationwide.

Then again, one interviewee, who is employed in the private sector, questions this idea. According to the interviewee, the issue is examined from the wrong perspective if the citizen is granted subjective right to sort waste even in cases in which it would not be appropriate from the perspective of the environment:

> "Well, the problem here is that the requirements for service level have been included into the waste, well… the Decree on Packaging, and the Waste Act, and so, this thing, the very purpose of which is the environment and protecting the environment, is now being thought of in terms of the service level, in other words, in terms of safeguarding the individual's right to sort [their waste]. This being so, we are headed in the completely wrong direction, this is no, there is no such thing as a subjective right to sort [waste]. I do understand that there can be a subjective right to receive care if you have an illness or if you are an older adult, or something, but why should we have a subjective right to sort [waste] if it makes no sense from the perspective of the environment. That is, in my view, a large question here." (H14)

The interviewee quoted above maintains that sorting waste cannot be thought of as a subjective right that could be equated with e.g. the citizen's right to receive care in the event of illness. According to the interviewee, the starting point for recycling activities should always be the best interest

of the environment in any given context. The interviewee thus perceives waste primarily as an environmental problem and waste management as environmental protection. For this reason, recycling should be approached on a case-to-case basis instead of defining it as a civil right.

However, the issue can be viewed differently as well. Interpreted as an expression of a waste-ethical relationship, sorting and recycling waste can be examined as the right to perform a duty. This is also the direction in which circular economy is guiding people. The subjective right to recycle would thus entail the idea of "the right to responsibility".

T.H. Marshall's (1950) seminal essay entitled *Citizenship and Social Class* is still considered a cornerstone of the theory of citizenship. However, Andrew Dobson points out that L.P. Jacks spoke about the human being as a responsible being already during the lectures he gave in the 1920s. According to him, the citizen has rights and responsibilities, but the right to responsibility exceeds them all. This is where the citizen's rights and responsibilities intersect (Dobson 2003, 41–43). Can the right to perform a duty, thus, be considered as a right? Seen in the context of, say, ethical pleasure gained from recycling, or, conversely, the negative feelings emerging from unethical actions, the right to responsibility may appear as highly important from the perspective of ethical considerations regarding waste (Hawkins 2006, 40). When recycling materials appropriately, the waste citizen contributes to structuring ethical ways of waste management. Therefore, it is important to take the waste citizen's right to responsibility into consideration. In order for an individual to embrace the subject position of the waste citizen, it has to be possible for all. Otherwise, entry into the subject position might not be possible. If recycling is governed by legislation and it is considered as one of the important rights of the waste citizen, the citizen's access to the recycling system is of primary importance.

The Waste Citizen's Political Sphere

One of the central ideas of the theory of environmental citizenship is that citizens are not accountable to the state or some supranational institution but directly to each other. As an example of this, Dobson mentions the ecological footprint – a key tool for measuring the living space occupied by a single individual. The premise is that the Earth's resources are limited and a large ecological footprint of one individual potentially causes harm to other citizens, and thus, the heavy consumer is accountable to those whose ecological space is reduced or otherwise threatened through these activities (Dobson 2003, 97–117). The term ecological footprint refers to the impact

of a single individual's way of life on our planet, for example in the form of carbon dioxide emissions.

Generation of waste is one way of increasing one's ecological footprint. One purpose of sorting and recycling waste is to reduce harmful impact of waste on the environment and thus to reduce one's ecological footprint. In our study, the interviewees did not directly mention the ecological impacts linked with waste. Instead, they repeatedly emphasized that waste should be perceived as raw material or a resource:

> "It is raw material and raw materials can be used in many ways. Waste makes many kinds of raw materials. We probably have those, well, plastic, metal, glass… Whatever [waste] may be generated in households." (H4)

> "(I) have been waiting quite long for a change in mindset, that waste would no longer be waste but it would be raw material – these materials would become so valuable… that people would compete over them. Well, there is competition over metal now, but in practice many other [materials] have not enough value to create a genuine competitive situation, so that those in the market would act to see who gets them." (H10)

The interviewees mention many types of waste – such as plastic, metal and glass – as materials that are collected and can be used as raw material for new products. Using waste as a material resource can be perceived as economically sound and throwing it away is not recommended. Then again, retaining waste in the cycle of the circular economy as raw material enables to reduce consumption of virgin natural resources. It is, thus, a question of both economy and ecological sustainability.

By framing waste as raw material, the interviewees remind citizens of the fact that sorting waste at home is not insignificant. Citizenship is inseparable from resources and its political sphere is global, similar to that of the ecological footprint. Examined from the perspective of global resources, the waste citizen is a global citizen.

Discussion and Conclusions

This article set out to answer the question: How is the subject position of *the waste citizen* constructed and what are the strategies employed to encourage people to embrace this position?

Similar to environmental citizenship, waste citizenship is strongly determined by duties and responsibilities. Performing waste sorting activities –

above all contributing to the overall tidiness of the recycling sites and sorting waste appropriately – are among the main responsibilities ascribed to the waste citizen. In addition, since the recycling instructions and waste categories vary across municipalities, it is the waste citizen's responsibility to be aware of the details of these practices. The waste citizen's rights are seen as intersecting with the responsibilities. Being a thrifty consumer and a vigilant consumer-citizen who actively and directly communicates with companies regarding waste issues are perceived as virtues of the waste citizen. The citizen's role in waste management is clearly structured around performing waste sorting activities and being a rational, thrifty and active consumer. Once the citizen has sorted the waste appropriately, waste management companies and decision-makers assume the responsibility for recycling, its environmental impacts as well as assessing and monitoring them. The waste citizen is not expected to be politically active or to develop new experimental waste practices, for example. In this sense, there is a clear-cut distribution of responsibilities in waste management.

People are encouraged to embrace the subject position of the waste citizen through approaching waste as raw material. Without going into detail about the possibilities of reusing different kinds of materials or processing them into new products, or considering the potential hindrances, obstacles or exceptions to these processes, the waste actors of our study perceive the issue in a rather straightforward manner: waste is raw material. This idea represents an attempt to introduce a new ontology of waste in order to transform the mindset of citizens. Seeing waste with new eyes, in terms of its qualities and potential as valuable material that can be highly useful to someone – instead of treating waste as surplus to be thrown away – hopes are held for a transformed outlook on waste. Waste citizenship is best embraced as a joint effort of citizens targeted at ensuring the continued use of materials – a break from the traditional way of thinking about waste as something to be disposed of.

Defining waste simply as raw material may motivate people to adopt waste sorting practices. However, previous studies have shown that the proximity of recycling points is the single most important motivational factor for sorting waste (Rousta et al. 2015). As our analysis has shown, equal opportunity for waste citizens to sort their waste can be viewed as a right to responsibility and, as such, a significant aspect of waste citizenship. Then again, such thinking may obscure the citizen's relationship with prevention of waste generation, which, according to the European Union's Waste Hierarchy framework for Circular Economy, is the most important factor in waste management – and a goal our interviewees also called for. If waste is

needed as raw material in society and the system is functioning effectively, we might forget the original aim of "designing waste away". For example, combustion plants produce slag as a by-product, and no appropriate way of reusing it as raw material exists. Similarly, the recycling process does not always proceed smoothly, to say nothing of the carbon dioxide emissions generated by the transportation and processing of materials to be recycled. This contradiction may obscure the otherwise very clear role of the waste citizen in waste management.

In circular economy, reduction of waste generation and recycling occupy hierarchical positions. In practical implementation of circular economy, this hierarchy is easily overshadowed and waste management frequently focuses on the recycled quantities reported as percentages. Although landfill sites in Finland have been closed down over a short period of time, the quantities of household waste generated annually keep increasing. From this we may infer that the waste hierarchy of the circular economy has not so far attained its goals. Because the use of waste combustion for energy is not considered as recycling, the closing of landfills has not resulted in significantly higher recycling rates. In Finland, the rate has remained about the same throughout the 2000s. It is expected that waste citizenship is still in the process of being structured. As waste and environmental problems continue to accumulate in the 2020s, waste citizenship is nevertheless one of the central roles available for people to act and contribute solutions to these problems.

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